

## REMARKS

### File History

In the final Office action of 6/06/2006, the following rejections appear to have been made:

> Claims 1-15 and 21-23 were rejected under 35 USC §103(a)/102(e) as being obvious over You (US 6,706,613) in combination with Wang (US Pub 2005/0110102 published 5/26/05 on basis of application filed 11/25/03). Reference was also made to Xing (US Pub 2003/0124873 published 7/3/03) as part of the justification for rejection.

### Summary of Current Response

Continued examination (RCE) is requested following final rejection. An extension of time is requested. Claims 24-28 are newly presented. Claims 1, 9, 11, 14 and 23 are amended. A Rule 132 Declaration is submitted herewith.

### Paraphrasing of Rejection

If understood correctly by Applicant, the previous rejection boils down to these points:

- You '613 teaches to reduce Bird's Beak;
- Fig. 2B of You '613 shows ONO with 3 layers;
- Fig. 2C of You '613 shows results of oxidizing 2B;
- PTO finds it obvious to substitute any one oxidation process for another;
- Wang '102 teaches to use ISSG (including to use a dry range);
- PTO finds there is no inventiveness in substituting one known oxidation process (dry ISSG) for another (dry O2 oxidation).

### Applicants' Understanding of Outstanding Office Action

In light of Examiner remarks made in the interview of 7/21/2006 Applicant understands the outstanding Office action of 6/6/2006 as having the following noteworthy features:

(1) The PTO is taking a position that despite recitation in You '613 of a "dry oxidation" process (col. 6, line 38 and col. 7, line 40), the ordinary artisan would have ignored this specific "away" teaching, and would have been motivated to instead take the intermediate "structure" produced in You '613 (where said structure is not fully defined in the Office action), and to further apply a specific ISSG process to that structure, where the specific ISSG process is selected from a broad range of possibilities presented in Wang '102.

(2) The PTO is taking a position that all ISSG processes are essentially the same irrespective of the surface composition that is being oxidized or the goals sought to be achieved or the ratio of H<sub>2</sub> to O<sub>2</sub>; and also that selection of a particular hydrogen concentration is merely a "result effective" choice and hence an inherently obvious choice.

(3) According to page 6 of the Final OA, the PTO appears to be looking at You Fig. 2C taken alone without fully reading the accompanying text, namely the part where the ONO stack is coated with a nitride film. Or alternatively, the PTO appears to be taking the position that; because the claims contain the word "comprising", the PTO can overlook the fact that You's sidewall 120a and substrate surface 100 have a nitride film formed thereon per You's specification at col. 6, lines 25-30 and lines 47-52. Applicant countered in the telephone interview that You '613 fails to teach plural "exposed" material layers at the time that the "dry" oxidation is applied. Thus the applied combination of You '613 with Wang '102 fails to reconstruct the claimed subject matter. This argument was deemed at the time to be unpersuasive.

#### **Detailed Analysis of the Paraphrased Rejection**

A Rule 132 Declaration is submitted herewith in traverse of the fact findings made by the PTO thus far in the record.

Applicant respectfully submits that the outstanding rejection can be reduced to: "It is obvious to arbitrarily try one oxidation process (ISSG of Wang) as a substitute for another (dry oxidation of You) and to arbitrarily select an extreme range of operation (an H<sub>2</sub>/O<sub>2</sub> ratio below 0.3) for the newly selected process".

Applicant has already argued that there are two major problems, legally speaking, with such a rejection:

- "Obvious to try" is almost never a valid basis for rejection.
- You plus Wang, even if the combination were permissible, does not reconstruct Applicant's claims.

The accompanying Rule 132 Declaration demonstrates that it is neither obvious nor technically advisable to arbitrarily try one oxidation process (ISSG of Wang) as a substitute for another (dry oxidation of You). One reason is because the ONO stack structure of You '613 includes a metal silicide layer. See paragraphs 4c-4d in the Rule 132 Declaration for details.

Over the years, judges have come to understand that almost every invention can be reconstructed with the aid of hindsight and merely by using the vast library of existing knowledge and technology as a convenient shopping mall, and by using an applicant's disclosure as the blueprint or shopping list for selectively picking and choosing from the shopping mall only those items that will meet the claim limitations while conveniently ignoring others, this culminating with an argument that it was "obvious to try" the cherry picked combination of components for one contrived reason or another. The problem with such an approach is that it smacks of hindsight and it is often built on circular reasoning.

If "obvious to try" were a permissible basis of rejection, then almost every composition of matter would be unpatentable. After all, the elements of the Periodic Table are well known. All compositions of matter are merely result effective selections from the Periodic Table.

Incidentally, it should be noted that complete reconstruction of Applicant's claim is as essential to a §103 rejection as it is to a §102(b) rejection because the latter is the epitome of the former.

LAW OFFICES OF  
MacPherson, Kwok, Chen &  
Heid LLP

2033 Gateway Place  
Suite 400  
San Jose, CA 95110  
Telephone: (408)-392-9520  
Facsimile: (408)-392-9262

With regard to the "obvious to try" line of reasoning: In re O'Farrell, 853 F.2d 894, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988) explains:

[T]his court and its predecessors have repeatedly emphasized that "obvious to try" is not the standard [for testing] under § 103. [T]he meaning of this maxim is sometimes lost [however]. Any invention that would in fact have been obvious under § 103 would also have been, in a sense, obvious to try. The question is: when is an invention that [looks like it] was obvious to try nevertheless nonobvious?

The admonition that "obvious to try" is not the standard under § 103 has been directed mainly at two kinds of error. In some cases [type-(1)], what would have been "obvious to try" would have been to vary all parameters or [to] try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either [(1a)] **no indication of which parameters were critical** or [(1b)] **no direction as to which of many possible choices is likely to be successful**. E.g., *In re Geiger*, 815 F.2d at 688, 2 USPQ2d at 1278; *Novo Industri A/S v. Travenol Laboratories, Inc.*, 677 F.2d 1202, 1208, 215 USPQ 412, 417 (7th Cir. 1982); *In re Yates*, 663 F.2d 1054, 1057, 211 USPQ 1149, 1151 (CCPA 1981); *In re Antonie*, 559 F.2d at 621, 195 USPQ at 8-9.

In others [--other cases, type-(2)], what was "obvious to try" was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it. *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1380, 231 USPQ 81, 90-91 (Fed. Cir. 1986), cert. denied, 480 U.S. 947, 107 S. Ct. 1606, 94 L. Ed. 2d 792 (1987); *In re Tomlinson*, 53 C.C.P.A. 1421, 363 F.2d 928, 931, 150 USPQ 623, 626 (CCPA 1966).

[*Emphasis added, square bracketed text added.*]

**Justification for Applicant's assertion that the present rejection boils down to an "obvious to try" one**

At page 5, last 5 lines of paragraph 3, the OA asserts that You '613 merely fails to recite the specific details for the volumetric flow ratio of  $H_2 : O_2$ .

This is categorically wrong. You does recite a specific  $H_2 : O_2$  ratio. It is zero ( $H_2/O_2=0$ ). You '613 directs the ordinary artisan to use "dry" oxidation ( col. 6, lines 38-46; and also col. 7, line 40). The ordinary artisan would understand "dry" oxidation in this particular context, to mean: no Hydrogen ( $H_2=0$ )and hence no water formation. That is why it

LAW OFFICES OF  
MacPherson, Kwok, Chen &  
Heid LLP

2033 Gateway Place  
Suite 400  
San Jose, CA 95110  
Telephone: (408)-392-9520  
Facsimile: (408)-392-9262

is termed a "dry" oxidation. The accompanying Rule 132 Declaration explains in more detail why the ordinary artisan would be motivated by You '613 to only use a "dry" oxidation and not a wet one.

Despite this very specific teaching by You '613, the Final OA continues at page 5, end of paragraph 3, to assert that the ordinary artisan would nonetheless be "motivated" to introduce hydrogen into the process; and more so to try "a known volumetric flow rate such as the rate taught by Wang" [*Emphasis added.*]

At page 6, paragraph 5, the Final OA asserts:

"Wang teaches that the ratio of  $H_2/H_2+O_2$  can be 0.1%" [*Emphasis added.*]

There is a world of difference between "can be" and "should be". Nowhere does Wang teach that in the situation of You '613, at the process point where You performs "dry" oxidation (col. 6, lines 38-46 of You) that an ISSG process should instead be used and that the utilized ratio of  $H_2/H_2+O_2$  should be 0.1%.

Thus, from Applicant's point of view, the rejection boils down to an "obvious to try" one.

#### Case law applied to the present situation

The above quoted discussion in In re O'Farrell regarding the first type of cases ([1a] and [1b] as enumerated above) applies to the present case. Wang '102 does not teach which parameters are critical to a particular result in You's situation. Wang does not indicate that a specific dry  $H_2/H_2+O_2$  ratio would provide "success" for the goals set forth in You '613, namely reducing Bird's Beak by use of a nitride outer coating. (And even if there was success, it would still not re-create the claimed subject matter of having "exposed" material layers -- this being a whole other issue.)

Instead Wang '102 warns that: "The oxygen radical O. concentration ... depends upon pressure, temperature, and relative amount of hydrogen in the chamber." (at [0031]). Wang cautions that "the ISSG process depends upon using process pressure, flow rate and temperature in the chamber within specified ranges. ... [I]n some embodiments the following



parameters can be effective: temperature in the range about 800°C to about 1000°C; pressure in the range about 1 torr to about 20 torr; flow rate of H<sub>2</sub>+O<sub>2</sub> in the range about 1 slm to about 40 slm. The ratio of H<sub>2</sub>/H<sub>2</sub>+O<sub>2</sub> is in the range about 0.1% to about 40%. " (at [0032] *Emphasis and bracketed text added.*)

So Wang is not promising that ISSG will be effective in all environments as long as one arbitrarily picks any number from each of the disclosed ranges. Wang is instead cautioning that only in "some" embodiments is there a possibility that the given parameters "can be" effective without actually disclosing in that passage what "effect" is being sought.

Even if we ignore for the moment the fact that You '613 **teaches away** from Wang '102 by directing the ordinary artisan to use "dry" oxidation with O<sub>2</sub> gas in given temperature range for the purpose of -forming a given thickness of oxide (40Å) 116 on top of the single, all-nitride film that forms on sidewall 120a and substrate 100 (You col. 6, lines 29-30)-- there are nonetheless a large number of variables to be played with in terms of what could be arguably tried as an alternate "oxidation" process.

ISSG is not the only possibility. Silane-based HTO is clearly an alternate candidate as even the PTO admits at OA page 3, last two lines. The source of oxygen can be varied over a large number of oxygen containing materials. The process temperatures, pressures and flow rates can be varied over a large number of possible permutations of settings. The desired thickness of formed oxide can also be played with.

In fact, Yu 6,184,155 which is mentioned in Wang '102 directs the ordinary artisan to have a "**steam environment**" when performing conventional ISSG (Yu at col. 3, line 26) and the current Office action does not explain why the ordinary artisan would not choose the recommended wet or steamy ISSG as recommended by Yu '155; but would instead specifically seek out a more dry ISSG from the range of possibilities offered under the ISSG tent of Wang; particularly in view of the assertion by the accompanying Rule 132 Declaration that low amounts of hydrogen would create an unstable or non-existent hydrogen flame. (See paragraph 5c of the accompanying Rule 132 Declaration.)

The question actually expands into one of why --of all the possible, and theoretically alternate oxidation processes (e.g., HTO with silane or dichlorsilane, dry oxidation, steamy ISSG, CVD, ALD, etc.) the ordinary artisan would be motivated "to try" (without worrying for the moment about likelihood of success) a very specific, dry ISSG? What motivation would have led the ordinary artisan to picking and trying this very one specific, dry ISSG process for the situation present in You's process just after col. 6, line 37 (just after the high temperature exposure to nitrogen)? Why would the artisan have an expectation of likely success, and what exactly is "success" in this particular situation? ISSG might reduce the effectiveness of You's nitride barrier and thus destroy the very goal that You is seeking in creating the barrier, namely, to reduce the rate of oxygen permeation into the interior of the stack.

The Office Action (OA) asserts that the motivation would have been because Wang teaches that ISSG "provides excellent thickness control" (OA page 3, last 2 lines of top paragraph).

In this regard, the PTO misses the import of Wang's teaching. Wang does not anywhere suggest that ISSG should be applied in a situation where Birds Beak is a problem and is to be avoided. In a sense, Wang is teaching to encourage formation of a Bird's Beak-like condition because the corners of nitride layer 426 (Fig. 4E) are to be "rounded" as shown for post-oxidation nitride layer 427 in Fig. 4F. The rounding is due to intrusion of oxide into a region formerly occupied by the sharp, post-etch, nitride corners.

More specifically, at paragraph [0041] Wang explains:

... According to the invention, the top oxide [428] is grown from exposed surfaces of the silicon nitride layer [426] following patterning of the nitride and bottom oxide portions, and as a result the corners, or edges, of the silicon nitride layer as formed in this way are entirely covered by oxide, which wraps around the edges of the silicon nitride layer to contact the adjacent portions of the drain/source oxide. As a result the nitride is entirely isolated from the subsequently-formed overlying polysilicon layer [by virtue of the corner-rounding or wrapping-around ISSG oxidation], ...

[Bracketed language and emphasis added].

LAW OFFICES OF  
MacPherson, Kwok, Chen &  
Heid LLP

2033 Gateway Place  
Suite 400  
San Jose, CA 95110  
Telephone: (408)-392-9520  
Facsimile: (408)-392-9262

Thus a person skilled in the art would see Wang '102 as teaching that ISSG exacerbates the Bird's Beak problem in the sense that it induces corner rounding and thereby alters the geometry of the ONO structure. (Compare again the rectangular nitride region 426 of Fig. 4E against the oval nitride region 426 of Wang Fig. 4F.)

Note also in Wang Fig. 4F of that oxide growth 434 is much thicker than oxide growth 428. The reason is the growth disparity between silicon and nitride. Yes, Wang is trying to reduce this disparity, but not totally. More important to Wang is that the corners of the rectangular nitride region 426 (Fig. 4E) be "entirely" wrapped in oxide so as to provide improved breakdown isolation from poly material 438 (Fig. 4G). Fig. 6 of Wang shows again that nitride region 626 is entirely wrapped around by oxide as is described in Wang paragraph [0041].

And Wang Fig. 6 shows that Bird's Beak invariably occurs due to intrusion of, and due to volume expansion by, oxide region 634 where said "source/drain oxides 634 have been grown from the buried diffusions 632 during the oxide radical-containing RTO at the same time as the top oxide 628 was formed ..." [Wang paragraph [0041], bracketed language and emphasis added].

Therefore, upon fair review of Wang '102, as made without aid of hindsight, the person of ordinary skill in the art would be drawn towards the conclusion that Wang's ISSG process contributes to Bird's Beak formation as is plainly seen in Wang Fig. 6.

Note again that Wang urges the artisan to use the more steamy formulations in Wang's examples and Wang suggests that Bird's Beak will invariably form as shown in Fig. 6. You '613 teaches the other way, to use "dry" oxidation and to try to avoid formation of Bird's Beak. You '613 and Wang '102 therefore clearly teach away from one another. Thus combination should not be permitted. And even if it were permitted, it does not point to the specific dry ISSG formulation and it does not eliminate the fact that You's ONO stack is covered with a metal silicide layer prior to oxidation.



## All the Signposts of Hindsight Thinking are Here

The courts have many times recognized that resort to hindsight thinking is highly tempting, and therefore great caution should be applied; particularly where the invention in retrospect appears to be a simple one (See *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999)).

As set forth in *In re Kotzab*, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000):

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. ... Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome" wherein that which only the invention taught is used against its teacher." ...

Most if not all inventions arise from a combination of old elements. ... Thus, every element of a claimed invention may often be found in the prior art. ... However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. ... Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. [citations omitted] [*Emphasis added.*]

There are certain well known indicia that indicate the hindsight syndrome may be in play. One of them is that of ignoring one or more "away teachings" by a first reference and stubbornly combining it to a second reference. See *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994) {"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be ... led in a direction divergent from the path that was taken by the applicant."}

Another indicator of hindsight is selective "picking and choosing", not only from within a given one reference but in the combining of multiple references. It is well established that each reference must be read in whole for what it fairly teaches one of ordinary skill. In this regard, the outstanding grounds of rejection choose to selectively ignore Your teaching

LAW OFFICES OF  
MacPherson, Kwok, Chen &  
Heid LLP

2033 Gateway Place  
Suite 400  
San Jose, CA 95110  
Telephone: (408)-392-9520  
Facsimile: (408)-392-9262

of "dry" oxidation and You's teaching of a different technique for controlling Bird's Beak (namely, forming a single nitride barrier skin on the outside of the ONO stack). The outstanding grounds of rejection choose to selectively ignore Wang's teaching of a more steamy ISSG in Wang's operative examples and the desired rounding of the nitride corners. The outstanding grounds of rejection choose to selectively ignore every instance where You and Wang teach away from one another.

The final Office action (page 3, bottom of first full paragraph) in effect asserts that:

"It would have been obvious to one with ordinary skill in the art at the time of the invention to form an oxide film [*on top of the nitride coated sidewall 120a and substrate 100 of You '613*] by using a dry ISSG process as taught by [*and selectively picked out from the broadest range provided by*] Wang in the process of You. As recognized by one skilled in the art, a dry ISSG process provides excellent thickness control and the thermal budget can be reduced (Abstract)." [*Emphasis and bracketed text added.*]

The accompanying Rule 132 Declaration explains why this line of fact finding is incorrect. So Applicant will not repeat here. It appears to Applicant from the above passage that a full appreciation of You '613 has not been ascertained by the PTO and a full appreciation of Wang '102 has not been ascertained by the PTO. Reconsideration is respectfully requested.

- The scope and content of the prior art must be ascertained

One important feature overlooked in the grounds of rejection --and Applicant has already argued this ad nauseum -- is the fact that You forms a **single, nitrogen barrier film** (see again col. 6. lines 25-29 and 49-54) over the sidewalls and substrate before subjecting the thus protected sidewalls (and therefore unexposed sidewall materials) to a "dry" oxidation process. In doing so, You '613 is pursuing a different approach to controlling Bird's Beak than that used in Applicant's claims. You is seeking to use the **single, nitride barrier film** as a barrier to permeation of oxygen into the ONO structure. You is seeking to slow down advancement of the oxidation front towards the silicon (poly) portions 110 and 104 of his

LAW OFFICES OF  
MacPherson, Kwok, Chen &  
Heid LLP

2033 Gateway Place  
Suite 400  
San Jose, CA 95110  
Telephone: (408)-392-9520  
Facsimile: (408)-392-9262

stack in Fig. 2B. Adding hydrogen might reduce the effectiveness of the nitride barrier and thereby go against You's teachings. The ordinary artisan would have no clear way of knowing without engaging in undue experimentation.

**The PTO appears to be rejecting something other than Applicant's subject matter**

At page 6, paragraph 6 of the Final OA, the PTO asserts:

Applicant argues ... ISSG be applied to a stack sidewall having further exposed thereat .... [T]his argument is not persuasive. Note that the structure and number of ONO layers ... of the present[ly claimed] invention is the same as [in] You's device (ONO layers 108 [are] comprised [of] Oxide 105a, Nitride 106a and Oxide 107a --see Fig. 2C).

*[Emphasis and bracketed text added.]*

No it is not the same structure. It appears to Applicant's representative from the above that the PTO is failing to properly construe the claims and perhaps failing to properly understand the import of the transition term "comprising" in Applicant's claims.

The term "comprising" is not a blank check giving the PTO freedom to add whatever "element C" it wants to the structure (e.g., "elements A, B") recited in the claims. Claim 1 calls for "at least one sidewall [including] at least three exposed material layers" and for a "subjecting [of] the at least one sidewall to a dry ISSG process".

Merriam-Webster's Online Dictionary (10th edition) defines "exposed" as: (2) not shielded or protected; also: not insulated <an exposed electric wire>. *[Emphasis added.]*

Thus the plain language of Claim 1 precludes having an "element C" such as a single nitride coating that shields, protects or insulates the ONO materials from direct exposure to the process chamber environment.

At the time that You's stack (Fig. 2B) is subjected to "dry" oxidation, You's stack does not have a sidewall including at least three exposed material layers. There is only one

exposed material layer, namely the thin nitride film that forms completely over the sidewall 120a of You's stack (Fig. 2B) and over the top substrate surface 100 and thereby shields, covers, and insulates layers 105a, 106a, 107a from the surrounding environment so as to render them unexposed to the environment. See again, You col. 6. lines 25-29 and 49-54.

It appears to Applicant's representative that the PTO is eviscerating the word "exposed" from Applicant's claims and that the PTO is altering the meaning of method step (a) of "subjecting the at least one sidewall to a dry ISSG process". The PTO is proposing to subject a different structure, namely, the nitride covered sidewall 120a of You '613 to such a process.

In doing so, the PTO is rejecting subject matter other than that which Applicant has presented as that which he regards to be his invention (see 35 USC §112).

It is axiomatic that during patent prosecution, claims are given their broadest reasonable interpretation consistent with the specification, and the claim language is to be read in view of the specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1053-54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976).

More specifically, in *In re Zletz* (13 USPQ2d at 1322) the court ruled that "It is incorrect for the [PTO] to read unwritten limitations into [the] claims ..., limitations contrary to the plain words of the claims, and contrary to the interpretations that the inventor himself placed on the claims [by placing broader words in his claims than those matching the PTO's desired, narrow interpretation of the claims as set forth by a lost count--13 USPQ2d at 1321] [*Emphasis and bracketed text added.*].

*In re Zletz* differs from the present case to the extent that there, the PTO was seeking to narrow the scope of Zletz's claims (to that of a PTO-generated interference-count) whereas here the PTO seeks to broaden the present claims by pretending the word "exposed" is not present in the claims. In either case, it is legal error for the PTO to rewrite Applicant's claims because 35 USC §112 leaves it to the prerogative of the Applicant to define the subject matter which the applicant regards as his invention.

- The combination of You and Wang fails to reconstruct the subject matter of Applicant's claims

Even if, for sake of argument, You and Wang could be properly combined as proposed by the PTO, such a combination would still fail to reconstruct the subject matter of Applicant's claims because the use of ISSG on "exposed" sidewall materials would not be realized. It is axiomatic that rejections based on 35 U.S.C. § 103 must rest on a factual basis, and that in making such a rejection, the examiner has the initial duty (prima facie duty) of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). See also in regard to claim construction: *Gechter v. Davidson*, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997); and **Phillips v. AWH Corp.**, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. Jul. 12, 2005)(en banc) {"The Patent and Trademark Office ('PTO') determines the scope of claims in patent applications not solely on the basis of claim language, but upon giving claims their broadest reasonable construction 'in light of the specification as it would be interpreted by one of ordinary skill in the art.'"} }

With regard to Claim 12, stating that it would have been obvious to select the recited "height variation ratio" is circular reasoning. It is incumbent upon the PTO to articulate why an ordinary artisan would have been led to such a course of action.

With regard to Claims 13-14, stating that B is an obvious consequence of A and therefore B is obvious is circular reasoning. It is incumbent upon the PTO to articulate why an ordinary artisan would have been led to realizing that a larger erase speed can be attained after performing dry ISSG. The realization comes only after the artisan has performed exploratory experimentation and has come to a recognition of



the improved sate. But that is the definition of an inventor (in the "discovery" realm of inventiveness) and not the definition of an ordinary artisan.

### CONCLUSION

Returning to Applicant's paraphrasing on page 2 of this paper, it can now be seen in view of the above and in view of the accompanying Rule 132 Declaration that things are not what they seemed:

- You '613 teaches to reduce Bird's Beak  
*--(by use of a single nitride barrier film);*
- Fig. 2B of You '613 shows ONO with 3 layers  
*--(that are coated by a single nitride barrier film and are thus not "exposed");*
- Fig. 2C of You '613 shows results of oxidizing 2B  
*--(via "dry" oxidation as applied through the single nitride barrier film and with the metal silicide layer being present);*
- It is obvious to substitute one oxidation for another  
*--(oxidations are not freely interchangeable, each has subtleties);*
- Wang '102 teaches to use ISSG (including to use a dry range)  
*--(Wang's working examples are in the wet range and used for a different purpose, namely, reducing oxidation disparity, the ordinary artisan normally wants to keep the hydrogen flame of ISSG stably lit. Wang Fig. 6 suggests that Bird's Beak will invariably occur);*
- There is no inventiveness in substituting one known oxidation process (ISSG) for another (dry O<sub>2</sub> oxidation)  
*--(Substituting a wet, hydrogen-containing oxidation would probably degrade or destroy the metal-silicide layer of You's nitride-coated stack.)*

In light of the foregoing, Applicant respectfully requests that the outstanding grounds of rejection be withdrawn and the claims be reconsidered and allowed. Should any other action be contemplated by the Examiner, it is respectfully requested that he contact the undersigned at (408) 392-9250 to discuss the application.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-2257 for any matter in connection with this response, including any fee for extension of time and/or fee for additional claims, which may be required.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 2, 2006.

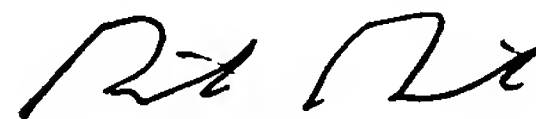


11-2-2006

Attorney for Applicant(s)

Date of Signature

Respectfully submitted,



Gideon Gimlan  
Attorney for Applicants  
Reg. No. 31,955

MacPherson Kwok Chen & Heid LLP  
2033 Gateway Place, Suite 400  
San Jose, CA 95110  
Tel: (408) 392-9250

\*\*\*\*\*

LAW OFFICES OF  
MacPherson, Kwok, Chen &  
Heid LLP

2033 Gateway Place  
Suite 400  
San Jose, CA 95110  
Telephone: (408)-392-9520  
Facsimile: (408)-392-9262